FRASER VALLEY DRILLING

Response to "Report of the Commission of Inquiry into Fraser Valley Petroleum Exploration

MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

SUMMARY

Government's decisions on this issue, after considering the conclusions and recommendations of the Anderson Inquiry, public expressions of interest and concern, and the potential benefits which could follow a successful exploration program are as follows:

—there will no drilling for underground storage permitted in the Fraser Valley.

—a single exploration well will be allowed in East Delta.

—the proposals for wells in the Langley-Aldergrove area will be put on hold until after the results of the first well are known, evaluated and public consultation has addressed outstanding concerns.

—recommendations of the Anderson Inquiry will be incorporated into the approval procedures and conditions insofar as they apply to a single-well program.

—there will be further public consultation and involvement prior to any approval being granted.

1. Establishment of Inquiry

The Inquiry, headed by Commissioner David Anderson, was established and given its terms of reference 2 May 1990.

Anderson, the B.C. government's former special advisor on oil-spills, was appointed under the B.C. Inquiry Act to give an independent review of all aspects of the matter. Anderson was given full powers to hold hearings, call witnesses and hear from independent experts, and investigate petroleum operations elsewhere.

Establishment of the inquiry followed the purchase of petroleum and natural gas rights in the Fraser Valley by three companies --BC Gas, Conoco Canada, and Dynamic Oil -- who proposed a 3-well program. When the inquiry was set up, the companies had not been given any approvals for drilling.

Issuance of any approvals was held in abeyance until the Inquiry had been completed, the report released to the public and government decisions made. No approvals have been given to date.

2. Terms of Reference

The terms of reference were broad. They asked Anderson to report on:

— the existing geology, environment, land-use and socio-economic conditions in the Fraser Valley;

— how natural gas exploration, production and possible underground storage could impact the Fraser Valley in the areas of:

— public health risks
— safety, property and amenity values
— environment, wildlife and land-use

— possible benefits for the economy, utilities, businesses and residents;

— existing regulations and suggested changes or improvements; and

—whether any areas should be excluded from future exploration, development or storage.

3. The conduct of the inquiry - May 3, 1990 to February 1, 1991.

The Inquiry held an initial series of nine public meetings throughout the Fraser Valley to determine the level of public awareness, to give an opportunity for issues of public concern to be raised, and to seek out local sources of information to assist the inquiry.

These meetings were followed by 16 technical hearings, the filing of 57 separate exhibits, and field trips and site inspections in 13 jurisdictions including British Columbia, Alberta, and Ontario, seven U.S. states, France, Italy and England.

During the technical hearings, sworn testimony was taken from expert witnesses; transcripts were taken; and questions from the public, from the Commissioner, and from other participants were put to witnesses through the Commission's legal counsel.

During the inquiry, a separate internal investigation into allegations of witness-tampering was made. The allegations were unfounded.

4. Key Findings of Inquiry — conclusions

4.0 Overview and drilling history

The Fraser Valley is a triangular area of approximately 2,600 square kilometres, ranging in elevation from sea level to upwards of 300 metres in the uplands to the north of the Fraser River and to an elevation of 120 metres in the uplands south of the Fraser River.

With a population of 1.8 million, the Fraser Valley is home to over half of the province's current population of 3.1 million. The area contains the fastest-growing municipalities in the province. Rapid growth is expected to continue.

Oil and gas drilling in the Fraser Valley dates back to 1904, and more than 50 wells have been drilled since then. Between 1911 and 1918 some extensive, shallow-well drilling took place. A second drilling wave occurred during the 1950s, with wells to depths of 2,400 metres, which indicated the possibility of natural gas. Exploration continued into the early 1960s, with the deepest well in the province — at 4,500 metres — being drilled southeast of the Tsawwassen ferry terminal.

The same geological formations underlie Whatcom County, adjacent and to the south of the B.C./Washington border. Here, approximately 100 wells have been drilled this century. While exploration continues, no major reservoir has been discovered.

4.1 Risks

The Inquiry concluded that the risks of exploratory drilling are slight: the chance of a well blow-out is very low—perhaps one in 15,000 for a single well; one in 5,000 for a three-well program.

While the presence of hydrogen sulphide and sour gas may exist in the Fraser Valley, the possibility of encountering such gas is remote.

The risk to groundwater supplies is remote in the extreme, unlikely to be widespread or long-term, and is overshadowed by other risks to groundwater contamination.

Considering the experience in California, the possibility of underground damage to a well or wellhead from an earthquake in the Fraser Valley appears to be slight.

4.2 Safety, property and amenity values

There is negligible potential for sweet, dry natural gas to accumulate on the surface and lead to asphyxiation or explosions.

Visual impacts, traffic, lights at night and noise from a three-to-six-week drilling operation are the most likely problems.

Petroleum industry developments can be expected to have a mildly positive effect on farmland preservation.

A temporary decline in residential property values is possible as a result of publicity over

natural gas facilities, but there is no clear evidence that this will occur.

4.3 Environment and land-use impacts

If no gas discoveries occur, a three-well drilling program would have an undetectable impact two years after the program is completed. A single well in Delta would disturb 1.5 hectares.

Petroleum industry presence is likely to have a mildly positive effect on fish and wildlife habitat protection.

Environmental effects can be expected to be strongly positive if drilling leads to the expanded use of natural gas in the Lower Mainland.

4.4 Petroleum activity exclusion zones

Existing 'no drilling' zones adequately protect parks, schools, hospitals, airports, waterways and harbours, water reservoirs and watersheds, roads and residential areas.

4.5 Existing regulations and suggested improvements.

The existing well-spacing system in British Columbia provides both an adequate spacing requirement and adequate flexibility.

Effective communication of the risks involved is very important, as are negotiations with those who have concerns over the impact of exploratory drilling.

5. Detailed Recommendations

The Inquiry provided government with 59 detailed recommendations. Some of these relate only to storage and are not applicable, some are of general applicability and are under consideration within the Ministry's ongoing review of legislation regulations and procedures, and some are applicable to single-well exploration program in Delta.

5.1 Recommendations 1 - 7 relate to natural gas storage and are not applicable.

5.2 Recommendations 8, 9, 10, 11, 13, 19, 20, 23, 24, 31, 32 and 57 relate to Ministry of Environment responsibilities for toxic soil, groundwater conservation and management, endangered species, noise, and environmental management. These have been passed to the Ministry for consideration under their mandate and programs.

5.3 Recommendations 15, 16, 17 and 18 relate to emergency response planning and to anti-crime and security precautions. They are applicable to the Delta well-site and are accepted.

5.4 Recommendations 21, 22, and 25 relate to noise abatement from drilling activities. It is accepted that noise levels must be properly measured and that the more rigorous noise suppression standards proposed by the Fraser Valley Gas Project should be adopted.

5.5 Recommendations 26 and 30 propose an increase in the mandate of the Mediation and Arbitration Board to deal with both compensation for road "wear and tear" from oversize petroleum vehicles and with disputes which would otherwise enter the court system. For a single-well program, these functions will be provided, if necessary, by ministry staff under their general powers to supervise the companies' activities.

5.6 Recommendations 27 and 43 propose that the Fraser Valley Gas Project provide liability insurance for groundwater loss or other environmental damage through a Captive Insurance Company, and that increased flexibility be given in the forms of security acceptable from operators. These proposals are not accepted, as liability insurance for groundwater and environmental damage and additional coverage for other public liability is considered more than adequate for the Delta single-well drilling program.

5.7 Recommendations 33 to 41 deal with various aspects of the drilling and production regulations, ranging from their broad philosophy and form, to specific matters of well spacing and minimum distances.

None of these is necessary for a single-well program, but all are being considered in a review of the Act and regulations now underway by the Ministry.

Recommendation 42, to preserve the existing powers to vary procedures and standards in response to local conditions, is applicable to the Fraser Valley and is accepted.

5.8 Recommendations 44 to 52 concern penalties, fines and procedures for offences under the Act. These are accepted in principle with details forming part of the Ministry's general review.

5.9 Recommendations 53, 54 and 55 deal with public communications prior to and during a well-drilling program. A communications program on risk, negotiation and compensation discussions with those affected, and a Citizens Advisory Council will all be established for a Delta well-site in accordance with the Inquiry's recommendations.

5.10 Recommendation 56 and 58 propose expanded hearings to review petroleum exploration proposals and that intervenor funding be provided in those hearings. The Inquiry process conducted by Commissioner Anderson has already met the need for hearings, and the Ministry is examining ways of expanding public consultation opportunities as part of its permitting procedures.

5.11 Recommendation 59 proposes a change in legislation to create a private citizen conference process to assist in deal dealing with non-compliant well operators. This is accepted, without the need for legislative change, and is provided for by the ministry's general powers over non-compliant companies.

SUMMARY OF WELL APPROVAL PROCESS
PROPOSED DELTA DRILLING LOCATION

A. PUBLIC CONSULTATION

1. The Ministry reviews public consultation conducted to date by the FVGP and advises of any further initiatives required.

B. COMPANY SUBMISSIONS

1. Pre-application;
2. Initial Environmental Assessment[1];
3. Emergency Response Plan and Well Drilling Plan;
4. Well Authorization[2] documents;
5. Access Road/Wellsite Construction Plan.

C. INTERAGENCY REFERRAL

Company submissions are referred to regulatory agencies. Documents are also available to the public. The regulatory agencies involved in the referral process will include:

a) Ministry of Environment
   i) Fish and Wildlife Branch;
   ii) Waste Management Branch;
   iii) Water Management Branch.
b) Ministry of Agriculture and Fisheries
c) Agricultural Land Commission
d) Ministry of Transportation and Highways
e) Ministry of Municipal Affairs, Recreation and Culture -- Archaeology and Outdoor Recreation Branch
f) Environment Canada -- Environmental Protection Branch
   -- Canadian Wildlife Service
g) Department of Fisheries and Oceans, Canada
h) Transport Canada
i) Municipality of Delta
j) Greater Vancouver Regional District
k) Boundary Bay Region Provincial Coordinating Committee.

D. APPROVALS WITH CONDITIONS

1. MEMPR "Permission to Construct Access Road, Wellsite and Conduct Well Drilling Operation";
2. Municipal/GVRD and other approvals;

3. FVGP must meet conditions for:

   (a) safety;
   (b) noise suppression
   (c) environmental protection;
   (d) clean-up/site restoration.

E. MONITORING DRILLING

1. Inspections will be made on-site during site-preparation and drilling.

2. Drill-site security will be maintained 24-hours per day.

3. Public advisories will be published daily on drilling status/progress.

F. SITE RESTORATION/ABANDONMENT

1. Site is restored.

2. FVGP files Abandonment Report and a full well history.

3. MEMPR issue Certificate of Restoration after inspection by Ministry staff.

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[1]The Initial Environmental Investigation (I.E.I.) is the first step in analyzing specific environmental sensitivities (air and noise, vegetation, soil, wildlife, aesthetics, archaeological, hazardous materials, water, fisheries, existing activity, social) related to the construction of the access road and drilling site and operations conducted during the drilling of a well. This becomes the basis for the referral process whereby each government agency best suited to address the specific concerns is contacted and provided with data relevant to the operation. The appropriate agency specifies action to be taken to mitigate impacts. The final approval given by the Ministry confirms the various actions to be taken by the operator.

[2]Well Authorization: A request from industry initiates the well authorization process. This administrative step establishes a number of conditions such as:

(1) confirmation that the operator is the holder of the Petroleum and Natural Gas rights;
(2) the well will be drilled within its "target area" in the spacing unit or if off-target the well's production will be penalized to protect neighbouring correlative rights;
(3) a well classification is assigned, i.e., "Exploratory Wildcat", "Exploratory Outpost" or "Development";
(4) various geological requirements such as drilling samples, logging and coring intervals are specified; and
(5) casing requirements are specified.